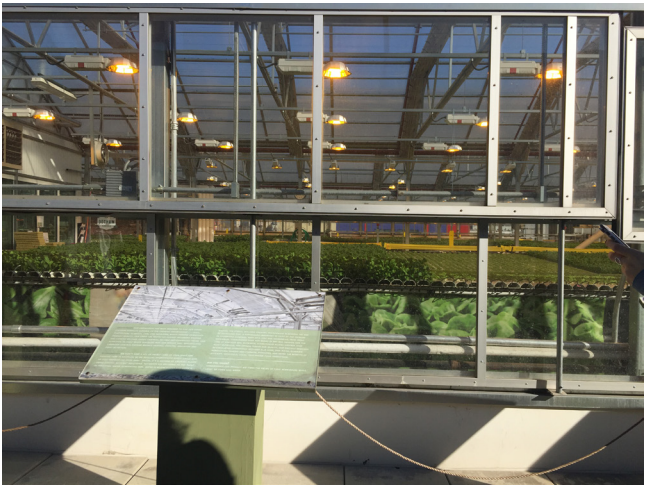
ENERGY



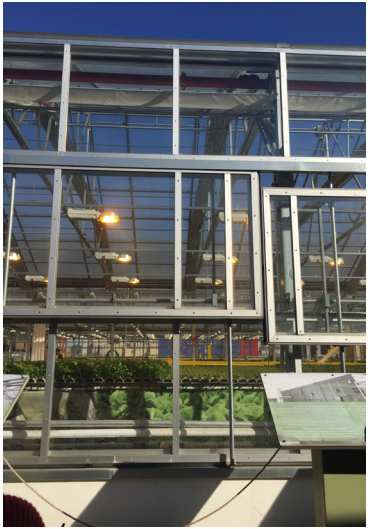
Hydroponics in Gotham Greens.

Hydroponics is a subset of hydroculture, which means that the growing of plants is in a soil less medium or a more aquatic based environment. Hydroponic growing uses mineral nutrient solutions to feed the plants in water, without the hassel of the soil. There are many advantages to hydroponic growing including the amount plants you are able to grow. At the Whole Foods Market in Gotham Greens, they use the N.F.T. System. The N.F.T. system stands for Nutrient Film Technique. The system is at the forefront of people's minds when hydroponics is mentioned. The solution for the system is

pumped from a reservoir into the growing tray. The growing tray requires no sort of growing medium so the roots draw up the nutrients from the flowing solution. The downward flow pours back into the reservoir to be recycled again. Even though there are a lot of advantages, there also comes with a lot of disadvantages. Hydroponic systems are extremely vulnerable to power outages and in the event of a power outage, it outlasts your generators so you will be manually watering your garden. In addition, a hydroponic system isn't cheap and it needs constant supervision.

Plants that are planted in Gotham Greens.

There were many sustainable aspects that I observed during the field trip, such as the window system to make sure that they had the correct temperature in the greenhouse. When the weather is too hot inside the greenhouse, the windows will open, especially in the summer in order to bring in air from the outside. When the plants are getting too much sunlight during the day, there is a system where the shades will open up, blocking the plants from the sunlight and when the plants are getting too little sunlight, the lights above the plants will turn on, in order to keep them from dying and keep them as healthy as possible for the consumers. There are solar panels and wind turbines surrounding the parking lot around the Greenhouse that is above of Whole Foods to help both Gotham Greenhouse and Whole Foods with their energy production. For water collection, they use the water throughout the hydroponic system, which recycles and reuses the downward flow.



Windows that open and close and are synchronized with the outside weather and inside weather.

Solar panels on top of the parking lot as well as wind turbines beside them in order to help run both Whole Foods and Gotham Greens.

The Gowanus neighborhood we walked through can be further improved in regards to energy aspects by creating more spaces for greenhouses to settle on. I think that the whole Foods/ Gotham Greens greenhouse that we went to was definitely a huge step in creating space and a more sustainable environment for the neighborhood. Walking past, there was this bin with a tree inside of it and the bin was able to collect rainwater and helped collect water instead of it just going down on the streets or flooding rivers. I think that having more of those can also make a huge difference throughout the community.

The bin with a tree inside that helped collect gallons of water and rainfall in the Gowanus neighborhood.

While on top of the rooftop (picture above), we received a lot of different greens that they grow at Gotham Greens.